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A Panel Data Analysis of the U.S.-Canadian Nonemployment Rate Gap Among Young, Low Skilled Males

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by
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Abstract

Evidence from the United States National Longitudinal Survey of Youth and the Canadian Labour Market Activity Survey shows differences in both incidence and duration give rise to the mid-1980 US-Canadian nonemployment rate gap of young, low skilled males. Canadians are more likely to experience a firm-initiated job separation, to have been in a seasonal or temporary job, to experience transition to nonemployment rather than another job, and to take-up Unemployment Insurance (UI) than Americans. Overall, a pattern emerges of more intermittent employment in Canada with intervening spells of UI-sponsored nonemployment.

Résumé

Les faits empiriques provenant du 'National Longitudinal Survey of Youth' des États-Unis et du Sondage du marché du travail canadien montrent que les différences dans l'impact et dans la durée du chômage donnent naissance au différentiel du taux de chômage des jeunes hommes faiblement qualifiés entre les États-Unis et le Canada au milieu des années 80. Les Canadiens, plus que les Américains, sont susceptibles d'être licenciés par les entreprises, d'avoir occupé un travail saisonnier ou temporaire, de passer à une situation de chômage plutôt que vers un autre emploi et de bénéficier de l'assurance-chômage. Tout compte fait, la tendance au Canada est une d'emploi intermittent entrecoupée de périodes de chômage subventionnées par l'assurance-chômage.

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1. Introduction

Since the early 1980s Canada's unemployment rate has been on average two to three percentage points higher than the rate in the U.S.. The persistence of this unemployment rate gap has generated interest among academics and policy-makers. Several studies have documented summary statistics related to the gap and examined potential explanations for its existences. [1] The gap's persistence has led many researchers to focus on structural and institutional differences across the countries, rather than demand-based, cyclical determinants. Often cross-section and time-ser-ies data are employed in these studies. In contrast, this paper investigates what comparable panel data from the countries reveal about the gap and focuses on a young, low skilled male cohort for whom the unemployment rate gap is particularly large.

Employment histories of young males over 1986-1987 are studied from the U.S. National Longitudinal Survey of Youth (NLSY) and the first wave of the Labour Market Activity Survey (LMAS). [2] Since 1986 is well beyond the start of the divergence in unemployment rates, any patterns contributing to the gap should be apparent. Cyclical factors are less likely to be a factor during this period, as the United States and Canada were experiencing relatively, stable economic activity levels.[3] With respect to the age restriction, young people tend to not be insulated from recent changes affecting the labour market as they have been in the labour force for only a short time and are most likely still in a job shopping stage.[4] Therefore, results for this age group may be more revealing than those from older samples.

For the specific cohort of interest here, white males age 20-25 with some or completed high school, cross-section data reveal a substantial unemployment i.ate gap in 1986 with rates of 13.5 per cent in the U.S. and 21 per cent in Canada. As Table 1 shows this gap of 7.5 percentage

[1] See Ashenfelter and Card (1986), Card and Riddell (1993), McCallum (1987), Keil and Symons (1990), Milbourne, Purvis and Scoones (1991), Baker, Corak and Heisz (1995), Jones and Corak (1995) and Zagorsky (1996)

[2] The first wave of the LMAS covers 1986-1987, a second wave covers 1988-1990.

[3] Real gross national product growth rates in the US were 2.7% and 3.4% in 1986 and 1987, respectively, and 3.3% and 4.0% in Canada. Stable economic activity levels were not a feature of the 1988-1990 period covered by the second wave of the LMA.S. In this period growth rates dropped from 4.5% in 1988 to .9% in 1990 in the US and from 4.4% to 1.1% in Canada.

[4] Topel and Ward (1992) find two-thirds of lifetime job changes occur within the first ten years of labour market experience.

points is much larger than the overall male unemployment rate gap of 2.9 percentage points. This cohort has one of the largest gaps observed in 1986. Young, low skilled females display a somewhat lower gap of 5.2 percentage points. In general, individuals below 20 show no signs of a gap, while those 20-25 and above 55 have gaps significantly greater than the overall gap. Within all age groups the gap is inversely related to education.

Table 1
Labour force statistics 1986 and 1993

1986	All males 16-65			Young, low skilled males 20-23		
	Canada	U.S.	Gap	Canada	U.S.	Gap
Unemployment rate	10.77	7.89	2.88	21.00	13.51	7.49
Labour force participation rate	84.28	83.61	0.67	94.03	95.50	(1.47)
Employment rate	75.20	77.01	(1.81)	74.28	82.60	(8.32)
Fraction of male labour force				8.86	7.38	1.48
1993						
Unemployment rate	12.63	8.61	4.02	26.23	14.15	12.08
Labour force participation rate	80.69	83.50	(2.81)	92.08	93.66	(1.58)
Employment rate	70.50	76.31	(5.81)	67.93	80.41	(12.48)
Fraction of male labour force				6.39	4.94	1.45

Note: These figures are calculated from the March 1986 and 1993 U.S. Current Population *(CPS)* and tile April 1986 and 1993 Canadian Survey of Consumer Finance (SCF). The unemployment rate is the number of unemployed divided by the number in the labour force. The labour force participation rate is the number in the labour force divided by the population. The employment rate is the number employed divided by the population.

Returning to Table 1, I find the labour force participation rates for the young male cohort are similar across the countries, but their employment rates are not. The U.S. employment rate for this cohort is 82.6 percent, much higher than the Canadian rate of 74.3 per cent. Thus, this cohort also displays a substantial nonemployment rate gap. This is in contrast to tile typical adult male (25-68) pattern in the 1980s of 'similar participation and employment rates across the countries but a higher- Canadian unemployment rate (Card and Riddell, 1995). Decomposing the overall male unemployment rate gap reveals that, even though this young, low skilled cohort makes up less than 10 percent of the male labour force in either country, its unemployment rate gap accounts for approximately 20 per cent of the overall male gap in 1986. As for the 1990s, the lower half of Table 1 indicates that the gap has only gotten larger. In 1993 the overall male

unemployment rate gap is 4 percentage points while both the unemployment and nonemployment rate gap for the young cohort have grown to over 12 percentage points. In addition, an overall male nonemployment rate gap of 5.8 percentage points has now emerged. While the young cohort represents a smaller fraction of the male labour force in 1993 than it did in 1986, it still accounts for 15-19 per cent of the overall male unemployment rate gap.

Data from the NLSY and LMAS reveal the gap for this cohort is composed of both incidence and duration differences across the countries with Canada experiencing higher incidence and longer durations. This paper is primarily a descriptive analysis of labour market features behind these differences with particular emphasis on the types of job separation routes taken by individuals and the role of Unemployment Insurance (UI) in their employment patterns.[5] The results presented here reveal that a large fraction of the young, low skilled males in both countries have a strong attachment to their jobs in that they do not experience a separation over the survey period. However, the majority of the respondents in both countries do experience a job separation. While the magnitude of job separations does not differ across the U.S. and Canada, the composition does. In particular, young, low skilled Canadians are less likely to transition immediately to another job, more likely to experience an involuntary or firm-initiated job separation, more likely to have been in a seasonal or temporary job prior to the separation, and more likely to experience a UI-sponsored nonemployment spell before finding another job than their American counterparts. These all contribute to the higher incidence and longer duration in Canada. Overall, a pattern emerges of more intermittent employment in Canada with intervening UI-sponsored nonemployment spells.

Many of the above findings are due to the use of panel data. For example, without such detailed employment histories the job-to-job transition result would not have been forthcoming. Thus, while the age and time restrictions do limit this study, the patterns revealed help to widen our understanding of how the labour market worked in the mid-1980s. In addition, since the gap has grown over the past decade, it is likely these patterns are still present, if not magnified,[6] making

[5] For a more structural analysis with this same data see Bowlus (1996) in which a general equilibrium search model is estimated to identify forces contributing to the gap.

[6] Confirmation of this conjecture will be possible when enough years of the new Canadian panel data, the Survey of Labour and Income Dynamics, become available.

them relevant for current policy discussions concerning UI reform and youth employment. These issues are addressed in the conclusions and policy implications section of the paper.

2. Data Description

While the NLSY and the LNIAS have their points of departure, in many, respects they are quite similar. Both allow respondents to report up to five jobs held since the last interview and provide a means or linking information across interviews for those jobs that last longer than one year. This enables the generation of detailed employment histories at the job spell level[7] and allows for the examination of job-to-job transitions as well as transitions between employment and nonemployment. The U.S. NLSY panel started in 1979 with a representative sample of youth age 14 to 22 who have since been interviewed annually. The first wave of the Canadian LMAS contains a representative age sample but interviewed respondents only twice, once in 1987 collecting information concerning 1986 and then again in 1988 to collect information for 1987. Thus the intersection of the two surveys allows for the comparison of employment histories of U.S. and Canadian individuals between the ages of 20 and 25 over the years 1986-1987.[8]

The cohort under examination consists of whites[9] males who have completed at least nine years of education but no more than a high school degree before January 1986 and are not enrolled in school in 1986 or 1987.[10] NLSY respondents must have been inter-viewed in 1987 and cannot have spent any weeks in the military during 1986 or 1987.[11] These restrictions result in sample sizes of 922 and 1498 for the NLSY and LMAS, respectively.

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[7] The LMAS defines a job in terms of its position and duties. Thus, in these data a job-to-job transition can occur even if the respondent does not change employers. This is not the case in the NLSY which rises an employer-based job definition. Under an employer-based definition fewer job-to-job transitions are recorded and job spell lengths are longer than under a duty-based definition.

[8] In 1986 the NLSY sample ranges in age from 21-29. However, in the LMAS age is categorized such that individuals age 20-24 and 25-34 are lumped together. To keep a close match in ages while not reducing the sample size too much respondents 21-25 years old in the NLSY and 20-24 years old in the LMAS are studied. This difference in age groupings has the potential or biasing the nonemployment rate gap upwards as individuals 20 years old tend to have higher nonemployment rates than those 25 years old. The CPS and SCF data used in Table 1 reveal the nonemployment rate gap amongst these age groups is 1 percentage point higher than the gap reported in Table 1 for individuals 20-25 years old.

[9] For the NLSY the category is non-black and non-Hispanic. Both the representative sample of white males and the over sample of poor white males are included. For the LMAS I use respondents who are not visible minorities.

[10] Given the education categories in the LMAS it is not possible to separate high school dropouts from graduates as is the case in the NLSY.

[11] The Canadian sample is already restricted to civilians only.

To avoid a large seasonal component present in the nonemployment rates during the winter months and to better match the figures presented in Table 1, I start sampling at the first week of April 1986. For each individual I collect information on their labour force status during this week distinguishing between three states: nonemployment, part-time employment (less than 35 hours per week), and full-time employment. I then follow the respondents through one full job cycle or until the end of 1987, whichever comes first. A job cycle lasts from the start of one job until the start of the next and for those who are not employed that first week of April also includes the nonemployment spell prior to the first job. A job spell must last at least three weeks to be considered.[12] I do not distinguish between unemployment and out of the labour force due to limitations of the data. Therefore,[13] nonemployment durations may contain weeks when the respondents were not in the labour force. For respondents employed in April 1986 the following cases are observed:

(a) censored job spell *(J_1)*

(b) job-to-job transition *(J_1-,J_2)*

(c) job to censored nonemployment spell *(JI--NI)*

(d) job to nonemployment to job spell *(J_1--N_1--J_2)*

For those who are not employed the possibilities are:

(a) censored nonemployment spell (No)

(b) nonemployment to censored job spell *(No--Jl)*

(c) nonemployment to job to job spell *(No--J_1--J_2)*

(d) nonemployment to job to censored nonemployment spell *(No-,J_1--Ni)*

(e) nonemployment to job to nonemployment to job spell *(No--J_1--N_1--J_2)*

Job-to-job transitions occur if J_2 starts no later than two weeks after the stop date of Jl. Durations are recorded in weeks for all spells in the job cycle (J_2 durations are not included).

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[12] Unless it is censored in which case it can have a duration as short as one week.

[13] Transitions between unemployment and out of the labour. force are not recorded in the NLSY. See Jones and Riddell (1995b) for a discussion of the problems associated with how the LILAS provides this information. Gönül (1992) shows that for males in the NLSY these two states are not behaviourally distinct. Jones and Riddell (1995a) using gross flow data from the Canadian Labour Force Surveys (LFS) find the two states to be behaviourally,

In addition to durations, censoring indicators and transitions, I also collect information on wages earned at the job, the industry code for the job, the reason given for why the job (J_1) ended, and whether or not the respondent received UI in 1986 and/or 1987.[14] The latter information on UI is then matched with the timing of the N_1 spells to determine if the respondent received UI while not employed. UI-recipiency for all N_1 spells that fall completely in 1986 (1987) is determined off the 1986 (1987) UI-receipt question. If the spell overlaps the years, then the respondent is coded as having received UI if they answer yes to receiving UI in either 1986 or 1987.[15]

Table 2 provides summary statistics for the U.S. and Canadian samples. In all the results presented sample weights are employed resulting in representative samples for both surveys."[16] Nonemployment rates for April 1986, shown in row 1, exhibit a large gap of over 7 percentage points.[17] The next three rows (2-4) contain various measures related to average job duration and indicate similar average job spell durations across the countries. In addition, row 4 shows that a large fraction of respondents in both countries, 45 per cent, do not experience a job separation. Rows 5 through 7 provide analogous statistics for nonemployment durations. Here Canadians have, on average, longer durations. The last row in the table shows the fraction of completed job spells that end in a transition to another job as opposed to nonemployment. Young Canadians are more likely to experience a spell of nonemployment between jobs than young Americans.[18] This transition difference across the countries is also found in Ferrall (1994) and Storer and Van Audenrode (1996). Ferrall finds young Canadians making the school-to-work transition are less

distinct for individuals 15-24 years old. However, their grouping includes females and students, both of whom have less labour force attachment and are excluded from the analysis presented here.

[14] In both surveys the respondents are asked whether or not they received UI during the previous year. The NLSY goes on to ask further information regarding the timing of that income. To maintain consistent treatment across the two samples I use only the annual information in each survey. Baker and Rea (1993) report the presence of systematic underreporting of UI benefit receipt in the LNLAS and indicate the degree of underreporting may be as high as 20%. No evidence was found to indicate similar problems in the NLSY.

[15] This method can potentially lead to the misclassification of UI-recipiency during a specific nonemployment *spell if* a respondent has more thin one nonemployment spell during a year's time. In the NLSY 13.4% of the respondents with nonemployment spells are potentially misclassified as receiving UI during a spell when they did riot. In the LMAS the figure is much larger at 38%. However, the UI-recipiency rate in the LMAS amongst those in which misclassification is not an issue is the same as that for the entire sample.

[16] For the NLSY the 1987 sample weights are used so as to account for attrition as well as the oversampling of poor whites (see note 9).

[17] The size of the gap is consistent with the cross-section figures given in Table 1, but the panel data nonemployment rates are lower than those from the cross-section data and are actually more in line with the cross-section unemployment rates.

[18] Given the NLSY and LMAS~ definitions of jobs (see note 7), the fraction in Table 2 actually understates the true difference across the countries in job-to-job transition probabilities.

likely than Americans to make the transition directly, but rather tend to experience a period of nonemployment following the end of formal education. Storer and Van Audenrode examine displaced workers and find Canadians are much less likely than Americans to make an immediate transition (less than four weeks of nonemployment) to another job after displacement.

Table 2
Means for U.S. and Canadian samples

	U.S.	Canada
Fraction nonemployed during first week of April	0.1474	0.2211
	(.0117)	(.0107)
Job duration (in weeks) including censored spells	152.21	152.36
(J_1)	(4.49)	(3.37)
Job duration excluding censored spells	89.92	95.24
	(3.89)	(3.79)
Fraction job spells censored	0.4549	0.4523
	(.0167)	(.0130)
Nonemployment duration (in weeks) - including	18.76	21.64
censored spells (N_1)	(1.08)	(0.73)
Nonemployment duration excluding censored spells	15.87	21.05
	(0.95)	(0.71)
Fraction nonemployment spells censored	0.1846	0.1899
	(.0254)	(.0176)
Fraction of completed job spells that end in a job-	0.5419	0.4518
to-job transition	(.0227)	(.0172)
Sample size	922	1498

Note: Sample weights are used when calculating these means. Standard errors are given in parentheses.

3. Labour Market Features Contributing to the Gap

The patterns in Table 2 reveal that young Canadians and Americans tend to experience a similar degree of job turnover. Job spell lengths and exit probabilities are the same. However, Americans are more likely to transition immediately to another job and therefore have longer employment spells, on average, than Canadians. In addition, when they do become nonemployed, it is for a shorter period of time than their Canadian counterparts. Thus, differences in both incidence and duration play a role in determining the gap for this cohort. In examining what is behind these differences I focus on (1) the nature of job separations and (2) the role of UI in each country,. Canada's more generous UI program is often held up as a contributor, to the gap.[19] During the mid-1980s Canada's UI program was less restrictive in terms of eligibility and more generous with respect to replacement rates and benefit duration than the program in the U.S..[20] In particular, with regard to eligibility differences, job leavers were eligible for UI in Canada but not in the U.S..

To examine the nature of job separations across the countries, I divide the data on job separation reasons[21] into two categories involuntary or firm-initiated separations and voluntary or worker-initiated separations. I also further divide the involuntary separations into layoffs, seasonal/temporary jobs, and other. Chart 1 illustrates how the response sets of the NLSY and LMAS are categorized so as to be comparable.[22] Row 1 of Table 3 shows that overall young Americans are more likely to cite voluntary reasons for a job separation than Canadians. The high voluntary separation rates in both countries reflect the fact that this cohort is actively engaged in job shopping. The higher rate of involuntary job separations among Canadians is only exhibited, as shown by rows 2 and 3, by those transitioning into nonemployment. This

[19] However, the fact that the timing of the gap's emergence and the divergence in program generosity is off by several years has led many to dismiss UI as a complete explanation.

[20] See Green and Riddell (1993) and Anderson and Meyer (1993) for summaries of the Canadian and US UI programs, respectively.

[21] In both surveys respondents are asked a question about wh3, the job ended. In the NLSY the respondent is given a card containing seven responses and is asked to choose one. In the LMAS the interview is done over the phone and it is the interviewer who classifies the respondent's response into one of 19 categories.

[22] There is, of course, no way of knowing whether NLSY respondents employed the same definitions as those of the LIL4.S interviewers. Of particular concern is the temporary job category which includes any job with a termination date (e.g., contract jobs) in the LMAS. The Canadian seasonal/temporary and layoff groupings, as given in Chart 1 do, however, agree with the respective US groupings along several dimensions including median durations and industry compositions.

establishes a link between the employment practices of firms and Canada's higher incidence of nonemployment.

The eligibility of UI for job leavers in Canada may also be contributing to the higher incidence. Workers who wish to change jobs may quit in order to search full-time rather than searching while employed. Row 4 indicates this incentive structure is not a factor. The fractions of Canadian and American job leavers entering nonemployment are not significantly different. The difference lies with involuntary job separators. Row 7 reveals a significantly, higher fraction of Canadian involuntary job separators enters nonemployment. What is it about the structure of involuntary job separations across the countries that leads to this pattern?

Table 3
Job separation analysis

	U.S.	Canada
Percentage of Separations that Are Voluntary		
All job separations	.6921	.5865
	(.0218)	(.0175)
Job-to-job transition	.8002	.7922
	(.0258)	(.0227)
Job to nonemployment transition	.5515	.4097
	(.0347)	(.0227)
Composition of Voluntary Separations		
Job-to-job transition	.6535	.6243
	(.0273)	(.0240)
Nonemployment with UI	.0406	.2028
	(.0114)	(.0199)
Nonemployment without UI	.3043	.1729
	(.0264)	(.0187)
Composition of Involuntary Separations		
Job-to-job transition	.3666	.2322
	(.0404)	(.0216)
Nonemployment with UI	.3085	.6263
	(.0389)	(.0248)
Nonemployment without UI	.3237	.1415
	(.0393)	(.0179)

It turns out that within the involuntary separation category there are important differences. In the U.S. layoff is the most common response with 55.5 per cent of all involuntary separations cited as layoffs. In Canada layoffs account for only 24.3 per cent. Canadians are much more likely to cite the seasonal/temporary nature of their jobs as a separation reason. Fifty-two per cent of all Canadian involuntary separations are due to this reason as opposed to only 11.5 per cent in the U.S.. These latter figures should not be interpreted as representing the overall degree of

seasonality in the Canadian and U.S. economy. As a fraction of all jobs in the sample seasonal/temporary jobs only account for a small portion: 10 per cent in Canada and 2 per cent in the U.S..[23] This five to one difference across the countries is larger than the two to one difference found when a standard seasonality measure of the entire economy is employed.[24] However, the cohort here excludes minority groups which, at least in the U.S., tend to have higher rates of seasonal employment,[25] and this involuntary separation category includes temporary jobs as well as seasonal jobs.[26]

Chart 1
Job separation response categorization

Category	NLSY response	LMAS response
Involuntary		
Layoffs	Layoffs	Non-seasonal economic/business conditions
Seasonal/temporary job	Seasonal/temporary job	Seasonal nature of job
	Program termination	Temporary non-seasonal job
		On-call arrangement
Other	Plant closure	Company moving/going out of business
	Discharged or fired	Dismissal by employer
		Labour dispute
Voluntary	Quit for pregnancy or family reasons	Personal/family responsibilities
	Quit for other reasons	Found a new job
		Illness or disability
		Going to school
		Changed residence
		Retired
		Low pay
		No opportunity for advancement
		Working conditions
		Worried about job security
		Other

Note: The NLSY response program termination refers to temporary government job programs for disadvantaged youth. The LMAS responses going to school and retired do not occur given the construction of the sample.

[23] The Canadian figures are actually lower than those reported by Christofides and McKenna (1995) for all respondents and all jobs in the 1986-87 LMAS. They find 66.2% of involuntary separations and 14% of all job spells are seasonal,' temporary as defined here.

[24] Rydzewski, Deming and Rones (1993) report total seasonality for private industries in the US economy in 1990 is 11.74%. This figure is calculated using monthly seasonally adjusted and unadjusted employment figures by industry from the firm-based Current Employment Statistics survey. Using their method and firm-based data collected by Statistics Canada, I calculate total seasonality in 1.990 for Canada it 23.55%.

[25] The fractions of involuntary job separations that are seasonal/temporary for young low skilled blacks and Hispanics in the NLSC are 20% and 25%, respectively.

[26] Approximately one-third of the seasonal/temporary separations in the Canadian sample are temporary or on-call jobs. Christofides and McKenna (1995) find 8% of all jobs in the 1986-87 LMAS are temporary or on-call. In contrast, Abraham (1990) estimates temporary workers represented 1.5% of the total workforce in the US. The inclusion of contract jobs in the LMAS definition of temporary (see note 22) is relevant to the comparison as Abraham includes only temporary, agency workers, short-term hires and on-call workers in her definition of temporary.

Seasonal work is typified by intermittent job spells with intervening periods of nonemployment. The seasonal/temporary workers in Canada exhibit the lowest job-to-job transition rate of all involuntary separation groups. In the U.S. the transition rate for seasonal/temporary, workers is insignificantly different from that of other involuntary job separators. These patterns highlight the important role seasonal employment differences across the economies play in determining the nonemployment rate gap of this young, low skilled cohort.

Evidence on industrial composition and its link to job separations is provided in Table 4. The top half of the table shows the industrial composition of the U.S., while the bottom half shows the same figures for Canada. In general, the overall distributions (column 1) are similar with the exception of a larger manufacturing presence in the U.S. and a larger, resource sector (agriculture, forestry, fishing and mining) in Canada. The largest distributional differences occur, not surprisingly given the seasonal and layoff evidence presented above, in the involuntary, separation categories (last three columns). Amongst all involuntary separations the manufacturing and service sectors represent a much higher fraction in the U.S. than in Canada, while agriculture, forestry, and fishing and construction (all highly, seasonal industries) are higher in Canada. Seasonal/temporary jobs are found in all sectors in Canada with the majority in construction, agriculture, forestry and fishing, and services. Several researchers have argued that the UI system put in place in Canada in the early 1970s encouraged seasonal industries and temporary employment policies through the absence of experience rating, short qualification periods, equal premium rates across industries, and regional differentation in benefits (Riddell, 1985: 30-32). In the U.S., where the partial experience rating of firms is part of the UI program, seasonal/temporary employment is less pervasive with construction dominating and several sectors having zero weight (note the small sample size). Differences in the layoff distribution are also apparent with wholesale and retail trade constituting the largest sector in Canada, while manufacturing is by far the largest in the U.S..

Table 4
Industrial composition

Sector	All jobs	Comp jobs	J_1-J_2	J_1-N_1	Vol.	Invol.	Seas./ temp.	Layoff
U.S.								
Agricul., Forestry, Fishing	.047	.051	.058	.043	.063	.013	.119	0
Mining	.014	.014	.005	.024	.004	.04	0	.071
Construction	.154	.165	.165	.165	.148	.178	.552	.191
Manufacturing	.270	.227	.246	.204	.214	.258	.009	.325
Trans., Commun., Utilities	.053	.056	.056	.056	.060	.036	0	.056
Wholesale/Retail trade	.247	.272	.252	.295	.300	.224	.017	.119
FIRE	.015	.012	.015	.009	.009	.023	0	0
Services	.182	.194	.201	.186	.195	.219	.193	.238
Public administration	.018	.009	.001	.018	.008	.012	.111	0
Sample size	885	483	248	235	305	143	20	75
Canada								
Agricul., Forestry, Fishing	.078	.071	.065	.077	.051	.099	.166	.002
Mining	.022	.021	.015	.026	.016	.028	.021	.065
Construction	.121	.146	.137	.157	.103	.216	.294	.139
Manufacturing	.207	.193	.197	.189	.196	.177	.094	.247
Trans., Commun., Utilities	.075	.070	.092	.052	.083	.061	.034	.098
Wholesale/Retail trade	.257	.254	.272	.238	.303	.206	.112	.347
FIRE	.020	.017	.011	.023	.015	.019	.037	0
Services	.191	.192	.184	.199	.211	.142	.155	.098
Public administration	.030	.036	.028	.042	.023	.052	.088	.005
Sample size	1472	834	331	503	408	382	237	72

Note: Comp. stands for completed, J_1-J_2 for job-to-job transitions, J_1-N_1 for transitions to non-employment, vol. for voluntary separations, invol. for involuntary separations, seas./temp. for seasonal or temporary job separations. Abbreviated industrial sectors are, in order, agriculture, forestry and fishing; transportation, communication and public utilities; and finance, insurance and real estate (FIRE). Sample weights are used in calculating these distributions.

Turning to nonemployment duration differences, row 1 of Table 5 presents the overall means as previously shown in Table 2 row 5. Rows 2 and 3 show the average nonemployment durations for those receiving UI and those not, respectively. Given Canada's higher UI replacement rate and longer benefit durations,[27] one would expect Canadians to have, on average, longer UI-supported nonemployment spells.[28]

[27] The average pretax replacement in the US was around 40% in the 1980s while it was 67% in Canada (both countries taxed UI benefits at this time). The maximum benefit duration was 26 weeks in the US and 50 weeks in Canada. See Moorthy (1989) for a comparison of the two programs.

[28] Models, such as Mortensen's (1977) search model and Moffitt and Nicholson's (1982) static labour supply model, predict individuals will increase unemployment durations in response to increases in the level and/or potential duration of benefits.

Table 5
Nonemployment duration analysis

	U.S.	Canada
Mean nonemployment duration - including censored spells	18.76	21.64
	(1.08)	(0.73)
Mean nonemployment duration - UI supported	23.39	23.85
	(2.05)	(0.80)
Mean nonemployment duration - not UI supported	16.76	16.50
	(1.26)	(1.53)
Fraction of nonemployed on UI	0.3005	0.7003
	(0.0302)	(0.0206)

Note: Sample weights are used when calculating these means. Standard errors are given in parentheses. Durations are in weeks.

Surprisingly, these means are identical across the countries.[29] Thus, Canada's more generous UI program does not seem to be encouraging substantially longer UI supported nonemployment spells among young, low skilled males. The final row in Table 5 indicates that the overall average duration difference stems from nonemployed Canadians being more than twice as likely to receive UI than nonemployed Americans.[30] A UI composition effect is causing the mean differences rather than a tendency of Canadians to be nonemployed longer irrespective of program participation.

Table 6 further divides the duration data by reason of job separation. Once again, conditioning on UI reveals no significant mean differences in duration across the countries. In both the U.S. and Canada individuals on UI stay out of work approximately 50 per cent longer than those not on UI. Interestingly enough, conditioning on UI eliminates any significant differences in mean durations across job separation types. In both Canada and the U.S. involuntary and voluntary job separators not on UI have similar mean durations and involuntary and voluntary job separators on UI have similar means. Thus, the overall mean difference stems from the greater tendency of Canadians to be on UI.

[29] Card and Riddell (1993) show overall Canada's average duration of UI claims does exceed the US's by approximately one month in the mid 1980s.
[30] Similar findings are reported in Ferrall (1994) and Card and Riddell (1993, 1995). Given the under- reporting of UI-recipiency in the LMAS (see note 14), this difference is most likely underestimated.

Table 6
Nonemplovment duration analysis by reason of separation

	U.S.		Canada	
	Voluntary	Involuntary	Voluntary	Involuntary
Mean nonemployment duration - including censored spells	17.05 (1.56)	20.27 (1.77)	21.50 (1.46)	21.49 (0.87)
Mean nonemployment duration - UI supported	24.76 (3.63)	24.33 (3.02)	25.40 (1.71)	22.91 (0.95)
Mean nonemployment duration - not UI supported	15.96 (1.70)	16.50 (2.05)	16.72 (2.47)	15.20 (2.05)

Note: Sample weights are used when calculating these means. Standard errors are given in parentheses. Durations are in weeks.

Returning to Table 3, I find UI-recipiency rates are affected by UI eligibility differences across the countries. This is especially true with respect to voluntary job separators who were eligible in Canada but not in the U.S.. Row 5 shows that in Canada 20 per cent of voluntary job separators end up on UI, whereas in the U.S. the fraction is less than 5 per cent.[31] However, this does not account for the entire difference in UI-recipiency. Canadians citing involuntary separation reasons also have a greater tendency to be on UI. Row 8 in Table 3 indicates 62.6 per cent of all job losers in Canada end up on UI. In the U.S. only 30.9 per cent do. Once again, the seasonal nature of Canada's economy plays a role. Nonemployed seasonal/temporary workers exhibit the highest UI-recipiency rate among all involuntary job separation categories at 83.9 per cent. This is in direct contrast to the U.S. rate for this group of 14.4 per cent. In addition, nonemployed Canadians who are on layoff also have a higher Ul-recipiency rate than their U.S. counterparts (72.9% versus 63%). While easier eligibility requirements in Canada[32] account for some of the UI-recipiency difference, they cannot account for it all. Higher Canadian UI take-up rates are also a factor.[33]

[31] The US figure is non-zero for several reasons. First, job leavers who leave for a 'just cause' such as sexual harassment on the job are eligible for UI in the US. Second, a few states allow job leavers to collect UI (Blank and Card, 1991). Third, respondents are allowed to give only one reason for the job ending and thus may qualify for UI under another reason even though they primarily viewed the separation as a quit.

[32] In addition to job leavers and dismissed workers being eligible for benefits in Canada and not in the US, the amount of earnings needed to qualify was lower in Canada (Anderson and Meyer, 1993). During the mid 1980s the minimum weeks of work needed to qualify ranged from 10-14 in Canada and 9-20 in the US (Moorthy, 1989).

[33] See Blank and Card (1991) and Storer and Van Audenrode (1995) for evidence of higher UI take-up rates among Canadians.

In Tables 7 and 8, I present evidence on how these patterns vary across U.S. and Canadian regions. Table 7 shows selected means for five regions of Canada including Ontario, Quebec, the Atlantic, the Prairies and British Columbia.[34] Table 8 contains means for four U.S. regions: Northeast, North Central, South and West.[35] While there is some variation across the U.S. regions with the South and Northeast outperforming the North Central and Western regions, it is relatively minor compared to the variation across Canadian regions. In Canada the performance of the Atlantic provinces is far below that of the Prairies and Ontario. Quebec and British Columbia lie in between these two extremes. Ontario actually closely matches the average U.S. values in Table 2, indicating not all of Canada was afflicted with substantially higher nonemployment rates (at least for this cohort) in the mid-1980s.

Two features of Ontario's economy stand out as different from the rest of the country and may be contributing to its superior performance. First, it has one of the lowest UI-recipiency rates at 60 per cent. The Atlantic provinces have the highest at over 82 per cent. Second, it has the lowest fraction of seasonal/temporary involuntary job separations at 37 per cent. Table 7 reveals substantial regional variation in the composition of involuntary separations. Only in Ontario is the layoff component as large as the seasonal/temporary component. In much of the rest of the country the fraction of seasonal/temporary involuntary separations is at least three times as great as the fraction of layoffs.

[34] The Atlantic provinces include Newfoundland, Prince Edward Island, New Brunswick and Nova Scotia. Manitoba, Saskatchewan, and Alberta are included in the Prairies.
[35] These divisions correspond to the NLSY region variable.

Table 7
Selected means across Canadian regions

	Ontario	Quebec	Atlantic	Prairies	BC
Fraction nonemployed during first week of April	.1406 (.0209)	.2875 (.0297)	.4162 (.0255)	.1743 (.0172)	.2448 (.0389)
Job duration (in weeks) including censored spells (J_1)	153.70 (7.57)	151.37 (8.41)	131.31 (7.25)	159.10 (5.84)	156.45 (12.73)
Fraction of completed job spells that end in a job-to-job transition	.5049 (.0412)	.4197 (.0441)	.2494 (.0278)	.4960 (.0318)	.4724 (.0605)
Nonemployment duration (in weeks) - including censored spells (U_1)	20.89 (1.75)	21.54 (1.90)	24.23 (1.29)	19.43 (1.14)	24.31 (3.40)
Nonemployment duration - UI supported	25.79 (2.20)	22.86 (2.20)	24.89 (1.32)	20.95 (1.27)	24.45 (3.36)
Nonemployment duration - not UI supported	13.44 (2.29)	16.91 (3.68)	21.07 (4.05)	15.00 (2.34)	24.11 (7.24)
Fraction of nonemployed on UI	.6030 (.0561)	.7771 (.0474)	.8258 (.0280)	.7443 (.0397)	.5760 (.0824)
% involuntary separations due to layoffs	.3449 (.0693)	.1791 (.0491)	.1559 (.0308)	.3049 (.0449)	.1808 (.0770)
% involuntary separations due to seasonal/temp. work	.3703 (.0704)	.5337 (.0639)	.7095 (.0385)	.5542 (.0485)	.5181 (.0999)
Sample size	278	234	375	488	123

Note: Sample weights are used when calculating these means. Standard errors are given in parentheses

Table 8
Selected means across U.S. regions

	Northeast	North central	South	West
Fraction nonemployed during first week of April	.1122 (.0239)	.1682 (.0221)	.1142 (.0189)	.1993 (.0332)
Job duration (in weeks) including censored spells (J_1)	152.86 (8.88)	162.51 (9.01)	148.58 (7.05)	134.87 (10.72)
Fraction of completed job spells that end in a job-to-job transition	.4993 (.0527)	.5286 (.0397)	.6449 (.0391)	.4530 (.0553)
Nonemployment duration (in weeks) - including censored spells (U_1)	18.38 (2.30)	19.89 (2.01)	19.10 (2.05)	16.84 (2.31)
Nonemployment duration - UI supported	21.15 (3.41)	24.34 (3.73)	23.49 (4.02)	23.24 (4.91)
Nonemployment duration - not UI supported	17.39 (2.85)	17.46 (2.36)	17.16 (2.39)	14.75 (2.61)
Fraction of nonemployed on UI	.2622 (.0663)	.3418 (.0537)	.3177 (.0601)	.2483 (.0637)
% involuntary separations due to layoffs	.5568 (.0939)	.4209 (.0736)	.7212 (.0737)	.5771 (.0917)
% involuntary separations due to seasonal/temp. work	.0695 (.0480)	.0842 (.0414)	.0833 (.0454)	.2269 (.0773)
Sample size	175	316	285	146

Note: Sample weights are used when calculating these means. Standard errors are given in parentheses.

It is interesting to ask what the monetary outcome is of these different paths in the countries. Are Americans benefitting more from their seemingly greater ability to make immediate job transitions or are Canadians reaping the rewards from additional search time while on UI? To investigate these questions I collect wages[36] on the two job spells (J_1 and J_2) and compute for each individual with two jobs the nominal wage growth[37] associated with that transition.

[36] In both data sets the wage information was collected by asking individuals about their time rate of pay (hourly, weekly, annually, etc.) and pay rate. In the NLSY the raw data are available, while in the LMAS all responses have been converted to hourly wage rates. To deal with the problem of outliers, in particular those responses that appear to either have or stem from time rates that do not agree with pay rates, I use the following procedures. For the NLSY I check all time and piles, rate responses against upper and lower bounds from the 1986 and 1987 Current Population Surveys. If a respondent's wage falls outside the bounds it is treated as missing. These bounds in effect eliminate all hourly wage rates below the minimum wage of $3.35 for 1986. For the LMAS I treat as missing all wages with hourly rates below the 1986 Canadian federal minimum wage of $4.00 and all weekly wage rates greater

Table 9 presents these findings for a sample of workers searching and working in the full-time paid labour market.[38] The first row shows the average wage growth across all respondents with a job change. The U.S. displays a slight advantage over Canada. The next two rows indicate this difference stems primarily from higher wage growth among Americans changing jobs without an intervening spell of nonemployment and the greater tendency of Americans to do so. The average wage growth for those who experience nonemployment between jobs is basically the same across the countries. However, the last two rows reveal this statistic is somewhat misleading. After dividing this group into those receiving UI and those not, I find negative mean wage growth (although not significantly different from zero) in the U.S. for those on UI while those not on UI see substantially higher wage gains. In Canada there is no difference between the two groups and for each the growth rate is significantly positive. This result is most likely due to the UI pool being composed of both voluntary and involuntary job separators in Canada, whereas the U.S. UI pool contains only involuntary job separators.

Table 9
Wage growth analysis

	Full-time samples	
	U.S.	Canada
All job separations	.2086 (.0316)	.1651 (.0210)
No intervening spell of nonemployment	.2622 (.0431)	.2114 (.0305)
Intervening spell of nonemployment	.1303 (.0449)	.1129 (.0286)
Nonemployment spell with UI	-0.0339 (.0515)	.1093 (.0341)
Nonemployment spell without UI	.2087 (.0589)	.1246 (.0469)

Note: Sample weights are used when calculating these means. Standard errors are given in parentheses.

than $1,000. All acceptable wages are converted into weekly rates and left in nominal terms denominated in each country's own currency.

[37] Canada had slightly higher inflation rates over this period with an annual rate of approximately 4% compared to a US rate of 2-3%. Inflation is not a factor when calculating wage growth rates among immediate job-to-job transitions, but could lead to an overstatement of the growth in rent terms of transitions involving a significant period of nonemployment (i.e. several months).

[38] Respondents who are self-employed or work part-time in either *J1* or *J2* are excluded.

Table 10 breaks down the wage growth figures further by dividing the samples into voluntary and involuntary job separators. In all cases wage growth among voluntary job separators is higher than among involuntary job separators. This age is a prime job shopping time for workers and these figures reflect the steep age-earnings profile typical of the start of one's working life (Topel and Ward, 1992). In terms of the differences found in Table 9, row 4 of Table 10 indicates the higher Canadian mean for those receiving UI is partially a reflection of the presence of voluntary job separators in the UI pool. However, it is also true that involuntary job separators on UI in Canada see significantly, positive wage growth as well. This is in direct contrast to the U.S. results where UI recipients' wage growth is insignificantly different from zero. Storer and Van Audenrode (1996) find a similar result among displaced workers, with UI-eligible Canadians outperforming UI-eligible Americans. Given the low UI-recipiency rates in the U.S., this latter result may well reflect characteristics of those opting for UI in the U.S.. With the much higher recipiency rates in Canada, the composition across the groups may be quite similar. In both countries there appears to be no significant wage gains to be made by voluntarily quitting one's job to search for another as opposed to searching on the job. And average returns to on and off the job search across the countries are similar. In addition, Canada's job leavers on UI do not perform significantly better than their American counterparts for which UI is not an option, but rather take on average 50 per cent longer to realize the same gain.

Table 10
Wage growth analysis by reason for separation

	Full-time samples			
	U.S.		Canada	
	Voluntary	Involuntary	Voluntary	Involuntary
All job separations	.2632	.0966	.2067	.0937
	(.0383)	(.0627)	(.0297)	(.0298)
No intervening spell of nonemployment	.2747	.1899	.2062	.1572
	(.0460)	(.1235)	(.0347)	(.0585)
Intervening spell of nonemployment	.2330	.0485	.2079	.0699
	(.0692)	(.0701)	(.0576)	(.0346)
Nonemployment spell with UI	.0875	-0.0490	.2559	.0611
	(.1265)	(.0727)	(.0837)	(.0367)
Nonemployment spell without UI	.2449	.1478	.1449	.1421
	(.0745)	(.1148)	(.0621)	(.1064)

Note: Sample weights are used when calculating these means. Standard errors are given in parentheses.

4. Conclusions and Policy Implications

The young male cohort studied here does not comprise a large fraction of the male labour force, but does account for one-fifth of the overall male unemployment rate gap between Canada and the U.S. in the mid 1980s and continues to account for a large portion of the gap in the 1990s. The use of panel data, as opposed to the more common cross-section data, is highlighted in this study and, while care has been taken to make the samples as comparable as possible with the data available, it should be kept in mind that there are several points of departure. These include: difference in job definition, difference in age groups, difference in race categorization, difference in UI-receipt reporting, and difference in reasons for job separations.[39] The cumulative effect of these non-comparabilities is unknown. However, the main results are quite striking and likely robust to the above caveat.

Similar patterns with regard to the degree of job separation occur across the two countries with over half of all respondents in both countries experiencing a job separation. It is at this point that the countries depart, with Canadians more likely than Americans to be involuntarily separated from their jobs and the separation more likely to result in a transition to UI-supported nonemployment. Two key features of the Canadian labour market contribute to this pattern: the greater generosity, of the Canadian UI program and the larger role of seasonal/temporary employment in the Canadian economy. It is likely that these two are intertwined, one influencing the presence of the other.

Seasonal employment and a more generous UI program were both features of the Canadian economy well before the emergence of the U.S.-Canadian unemployment rate gap. A lack of comparable panel data prior to the gap's emergence prevents the examination of changes over time in tile patterns found here. Card and Riddell (1995) do provide evidence or the difference in UI-recipiency rates widening further over the 1980s, with rates in the U.S. failing and those in Canada rising. They find this widening helps explain a substantial proportion of the overall gap. Lemieux and MacLeod (1995) and Wesa (1995) present evidence that this growth in Canada is mainly due to an upward trend in the use of UI by high-frequency users. Tailoring job spells to UI program parameters, especially by seasonal workers, has also become a feature of the

Canadian labour market (Green and Sargent, 1995). All of this provides further evidence that interactions between the two may well have contributed to the persistence of the gap.

As Table 1 shows, the unemployment gap has grown both overall and for young adults since the mid-1980s. Despite a declining fraction of the male labour force in both countries, the young, low skilled cohort still accounts for a surprising 15-19 per cent of the overall unemployment rate gap. In addition, the relative position of this young cohort has worsened in Canada over time. The ratio of the young cohort's unemployment rate to its complement's unemployment rate is steady in the U.S. at 1.7 but rises in Canada from 1.95 to 2.24. [40]

Relevant to these patterns, as well as many others in this paper, are two current policy initiatives of the Canadian government. The first is directly related to youth. In recognition of the overall deterioration in the position of youth in the economy, the government has set as a policy objective for 1996 the formulation of a youth employment strategy. Much of the new youth employment program is just now taking shape, but it will likely feature summer employment opportunities for high school and post-secondary students, summer job clearinghouses, internships, student loans and the stay-in-school program directed at reducing the drop-out rate. A primary emphasis has been placed on programs that aid in the school-to-work transition.

The second policy initiative is the restructuring of UI. Significant changes were made in 1993 and 1994 and more are being proposed and debated. The 1993 Bill C-113 and 1994 Bill C-17 resulted in the ineligibility of most job quitters for UI and a reduction in the generosity of benefits for many recipients through a lower replacement rate, longer qualification periods, and shorter benefit durations. If enacted the new *Employment Insurance Act* (Bill C-12) will bring even more changes, including qualification for UI based on hours of work instead of weeks, a longer qualification period for new entrants and re-entrants, reduced premiums for both firms and workers, and the experience rating of UI-recipients. With respect to the latter, an individual's benefit replacement rate and tax clawback will be functions of his/her past use of UI. The changes with the most immediate effect on youth will most likely be the switch to hours

[39] For specific information on each of these the reader is referred to notes 7, 8, 9, 14, 15 and 21, respectively.
[40] The complement of the young cohort used in Table 1 includes all non-white males, all males 16-19 and 26-65, and all males 20-25 with more than a high school education. Unemployment rates for this group in the US are 7.44% in 1986 and 8.32% in 1993 and in Canada are 9.77% in 1986 and 11.7% in 1993.

which will increase UI coverage to part-time workers; and the increase in the new entrant qualification period and the ineligibility of job quitters both of which will make it harder for youth to qualify for UI when they are job shopping.

There are several lessons in the results of this paper that are relevant to the above policy initiatives. First, supporting education is important. Unemployment rates for young workers are high in general, but they rise as the level of educational attainment falls. It is also true that the gap in rates between Canada and the U.S. is inversely related to education. Thus, low skilled Canadians have a particularly difficult time in the labour market. A positive sign is the significant reduction in the fraction of all individuals 20-25 years old with only 9-11 years of education from 21.9 per cent in 1986 to 6.7 per cent in 1993. However, the fraction of this group going on to post-secondary education in Canada in 1993 still lags behind the U.S. (48.8% versus 53.3%).[41] Second, higher youth unemployment is not just a school-to-work transition problem. The cohort in this study has been in the labour force for at least two years, many longer. The nonemployment durations studied all follow spells of gainful employment and thus occur after the school-to-work transition has supposedly been made. It is true that young adults tend to job shop and that this is not an activity that necessarily, should be discouraged. However, the cross-country, comparisons here reveal a greater tendency for Canadians to be involuntarily separated from their jobs with intervening periods of nonemployment. Third, the difference in the composition of job separations across the countries is striking and points to a larger role of seasonal and temporary employment in the lives of young Canadians. Special attention needs to be directed toward the employment opportunities available to these workers in the Canadian economy. And, finally, UI is an important feature early on in the employment histories of Canadians. These young adults have barely started their careers and already a significant fraction of them have taken up UI. Discouraging repeat use and UI dependence through appropriate incentive structures and long-term employment opportunities is important if Canada is going to reduce the gap. Many of these lessons appear to have been addressed in the current policy debate surrounding UI and youth employment. As more Canadian panel data become available with the new Survey of Labour and Income Dynamics, an evaluation of these program changes and an analysis of their effects on the lives of young Canadians will be possible.

[41] These figures are taken from the data used in Table 1.

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